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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
FERGUSON SAMRETH, MARISSA LIANA	
ART UNIT	**PAPER NUMBER**
2854	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

TH

Office Action Summary	Application No.	Applicant(s)	
	10/803,225	MA ET AL.	
	Examiner	Art Unit	
	Marissa L. Ferguson-Samreth	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,10-22 and 26-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-6,10-22 and 26-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 16, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. (EPO 1,329,487) in view of Kowalski (US Patent 6,536,893) and Nagata et al. (US Patent 6,585,366).

Regarding claims 1,16 and 17, Choy et al. teaches the invention and method claimed comprising offset media and an inkjet ink including a pigment colorant, wherein the inkjet ink is configured to be ink jetted onto the offset media (Abstract, Page 3, Paragraph 0017 and Page 9, Paragraph 0033). However, he does not explicitly disclose a calendaring device comprising a pair of rollers configured for applying pressure to offset media once the inkjet ink is ink-jetted thereon and wherein the pressure is mechanical pressure applied at form 500 psi to 3000 psi, and wherein the heat to be applied is from 20 degrees C to 90 degrees C. Kowalski teaches a method of printing an ink jet ink on a print medium comprising a heating/pressing calendaring device (element 22,122), which may contain rollers (Column 8, Lines 49-60). The method also consist of providing or jetting an ink of a medium forming an intermediate image and then subjecting the medium to pressure (Column 1, Lines 46-61). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify

the invention taught by Choy et al. to include a calendaring device as taught by Kowalski, since Kowalski teaches it is advantageous to provide a medium with a water fast and smear fast printed image (Column 1,Lines 56-61).

However, Choy and Kowalski do not teach calendering at a mechanical pressure applied from 500 psi to 3000 psi and applying a heat from 20° to 90° C. Nagata et al. teaches applying ink to a surface of a media and calendering (element 2, Abstract and Column 5, Lines 39-55) at 50 to 1200N/cm (73 psi –1740 psi) at a temperature of about 20-100 degrees C (Column 5, Lines 18-27). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention taught by Choy et al. to replace the calendering device thereof with a device that calendars at a pressure and temperature as taught by Nagata et al. provides improved optical density of an image.

Regarding claim 22, Choy et al. teaches wherein the pigment colorant is present in the inkjet ink at from 0.5 % to 10% (Page 4, Line27).

2. Claims 2,10-13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. (EPO 1,329,487) in view of Kowalski (US Patent 6,536,893) and Nagata et al. (US Patent 6,585,366)as applied to claims 1 and 17 above, further in view of Kitamura et al. (US Patent 6,498,222).

Regarding claims 2 and 18, Choy et al., Kowalski and Nagata et al. all teach the method and apparatus claimed with the exception of a fixer composition including a crashing agent that is reactive with a component of the inkjet ink, a fixer composition being configured to be overprinted or under printed on the offset media with respect to

the inkjet ink. Kitamura et al. teaches an inkjet system with a crashing agent component (Column 13, Lines 35-55, Column 14, Lines 14-60) configured to be overprinted or under printed on a substrate.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to further modify the invention taught by Choy et al. in view of Kowalski and Nagata et al. to include a crash agent as taught by Kitamura et al., since Kitamura et al. teaches it is advantageous to provide a fast drying image.

Regarding claims 10-13, Choy et al., Kowalski and Nagata et al. all teach the method and apparatus claimed with the exception of a crashing agent selected from the group consisting of cationic polymers, multivalent metal ions or ionic groups, acids, and combinations thereof, a crashing agent that is a cationic polymer selected from the group consisting of polyvinylpyridines, polyalkylaminoethyl acrylates, olyalkylaminoethyl methacrylates, polytvinyl imidazole), polyethyleneimines, polybiguanides, polyguanides, polyvinylamines, polyallylarnines ,polyacrylamines, polyquaternaryamines, cationic polyuretanenes, aminecelluloses, polysacchride amines and combinations thereof, a crashing agent that is a multivalent metal ion or ionic group is provided by a member selected from the group consisting of multivalent metal nitrates, EDTA salts, phosphonium halide salts, organic acids, chloride salts, and combinations thereof and a crashing agent that is an acid selected from the group consisting of succinic acid, glycolic acid, citric acid, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid, polyacrylic acid, acetic acid, malonic acid, maleic acid, ascorbic acid, glutaric acid, fumaric acid, tartaric acid, lactic acid, nitrous acid, boric acid, carbonic acid, carboxylic

acids such as formic acid, chloroacetic acid, dichloroacetic acid, trichloroacetic acid, fluoroacetic acid, trimethylacetic acid, methoxyacetic acid, mercaptoacetic acid, prbpionic acid, butyric acid, valeric acid, caprioc acid, caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, rinolic acid, rinoleic acid, cyclohexanecarboxylic acid, phenylacetic acid, benzoic acid, o-toluic acid, m-toluic acid, p-toluic acid, o-chlorobenzoic acid, m-chlorobenzoic acid, pchlorobenzoic acid, o-bromobenzoic acid, m-bromobenzoic acid, p-bromobenzoic acid, o-nitrobenzoic acid, m--nitrobenzoic acid, p-nitrobenzoic acid, oxalic acid, adipic acid, phthalic acid, isophthalic acid, terephthalic acid, salicylic acid, phydrobenzoic acid, anthranilic acid, m-aminobenzoic acid, p-aminobenzoic acid, benzenesulfonic acid, methylbenzenesulfonic acid, ethyl benzenesulfonic acid, dodecylbenzenesulfonic acid, s-sulfosalicylic acid, l-sulfonaphthalene, hexanesulfonic acid, octanesulfonic acid, dodecanesulfonic acid, amino acids such as glycine, alanine, valine, G-am inobutyric acid, a-aminobutryic acid, aalanine, taurine, serine, a-amino-n-caprioc acid, leucine, norleucine, phenylalanine, and combinations thereof.

Kitamura et al. teaches a crashing agent consisting of polymeric ionic crashing agent that is a polyacrylamide (Column 14, Lines 55-57) and an acidic crashing agent selected from sulfuric acid, acetic acid, glycolic acid, hydrochloric acid and propinic acid (Column 14, Lines 20-28). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to further modify the invention taught by Choy et al. in view of Kowalski and Nagata et al. to include a crash agent selected from a group of acids and cationichonic polymers as taught by Kitamura et al., since

Kitamura et al. teaches it is advantageous to improve durability and water fastness of an inkjet ink image on a printed substrate.

3. Claims 3, 19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. (EPO 1,329,487) in view of Kowalski (US Patent 6,536,893), Nagata et al. (US Patent 6,585,366) and Kitamura et al. (US Patent 6,498,222) as applied to claims 2 and 18 above, and further in view of Iwasaki et al. (US Patent 6,800,588).

Regarding claims 3 and 19, Choy et al., Kowalski, Nagata et al. and Kitamura et al. all teach the claimed method and invention with the exception of a crashing agent present in a composition at from 0.1 wt% to 10 wt%. Iwasaki et al. teaches an acid surfactant contained in an ink-jet ink with a weight composition of 0.5 wt% to 10% by weight and 1 to 5 wt% by layer (Column 4, Lines 59-67 and Column 5, Lines 1-4). It would have been obvious at the time the invention was made to a person having ordinary skill in the art further to modify the invention taught by Choy et al. in view of Kowalski, Nagata et al. and Kitamura et al. to include a crash agent with a weight 0.5-10% as taught by Iwasaki et al., since Iwasaki et al. teaches it is advantageous to improve the resistance of inkjet ink.

Regarding claim 26, Choy et al., Kowalski and Nagata et al. all teach the method and apparatus claimed with the exception of a crashing agent selected from the group consisting of cationic polymers, multivalent metal ions or ionic groups, acids, and combinations thereof, a crashing agent that is a cationic polymer selected from the group consisting of polyvinylpyridines, polyalkylaminoethyl acrylates, olyalkylaminoethyl methacrylates, polytvinyl imidazole), polyethyleneimines, polybiguanides, polyguanides,

polyvinylamines, polyallylarnines ,polyacrylamines, polyquaternaryamines, cationic polyuretanenes, aminecelluloses, polysacchride amines and combinations thereof, a crashing agent that is a multivalent metal ion or ionic group is provided by a member selected from the group consisting of multivalent metal nitrates, EDTA salts, phosphonium halide salts, organic acids, chloride salts, and combinations thereof and a crashing agent that is an acid selected from the group consisting of succinic acid, glycolic acid, citric acid, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid, polyacrylic acid, acetic acid, malonic acid, maleic acid, ascorbic acid, glutaric acid, fumaric acid, tartaric acid, lactic acid, nitrous acid, boric acid, carbonic acid, carboxylic acids such as formic acid, chloroacetic acid, dichloroacetic acid, trichloroacetic acid, fluoroacetic acid, trimethylacetic acid, methoxyacetic acid, mercaptoacetic acid, prbpionic acid, butyric acid, valeric acid, caprioc acid, caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, rinolic acid, rinoleic acid, cyclohexanecarboxylic acid, phenylacetic acid, benzoic acid, o-toluic acid, m-toluic acid, p-toluic acid, o-chlorobenzoic acid, m-chlorobenzoic acid, pchlorobenzoic acid, o-bromobenzoic acid, m-bromobenzoic acid, p-bromobenzoic acid, o-nitrobenzoic acid, m--nitrobenzoic acid, p-nitrobenzoic acid, oxalic acid, adipic acid, phthalic acid, isophthalic acid, terephthalic acid, salicylic acid, phydrobenzoic acid, anthranilic acid, m-aminobenzoic acid, p-aminobenzoic acid, benzenesulfonic acid, methylbenzenesulfonic acid, ethyl benzenesulfonic acid, dodecylbenzenesulfonic acid, s-sulfosalicylic acid, l-sulfonaphthalene, hexanesulfonic acid, octanesulfonic acid, dodecanesulfonic acid, amino acids such as glycine, alanine, valine, G-am inobutyric

acid, a-aminobutryic acid, aalanine, taurine, serine, a-amino-n-caprioc acid, leucine, norleucine, phenylalanine, and combinations thereof.

Kitamura et al. teaches a crashing agent consisting of polymeric ionic crashing agent that is a polyacrylamide (Column 14, Lines 55-57) and an acidic crashing agent selected from sulfuric acid, acetic acid, glycolic acid, hydrochloric acid and propinic acid (Column 14, Lines 20-28).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to further modify the invention taught by Choy et al. in view of Kolwalski and Nagata et al. to include a crash agent selected from a group of acids and cationichonic polymers as taught by Kitamura et al., since Kitamura et al. teaches it is advantageous to improve durability and water fastness of an inkjet ink image on a printed substrate.

4. Claims 4, 5, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. (EPO 1,329,487) in view of Kowalski (US Patent 6,536,893) and Nagata et al. (US Patent 6,585,366) as applied to claims 1 and 17 above, and further in view of Ishikawa et al. (US Publication 2002/0175983).

Choy et al., Kowalski and Nagata et al. all teach the method and invention claimed including the claimed weight as discussed in claim 6 above, however the references do not explicitly disclose latex particulates dispersed in the inkjet ink. Ishikawa et al. teaches latex particulate dispersion in inkjet inks (Paragraph 0006). It would have been obvious at the time the invention was made to a person having

ordinary skill in the art to further modify the invention taught by Choy et al. in view of Kowalski and Nagata et al. to include dispersing particulates in an inkjet ink as taught by Ishikawa et al., since Ishikawa et al. teaches it is advantageous to improve water resistance, light fastness and rub resistance of inkjet images.

5. Claims 6, 14, 15, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. (EPO 1,329,487) in view of Kowalski (US Patent 6,536,893), Nagata et al. (US Patent 6,585,366) and Ishikawa et al. (US Publication 2002/0175983) as applied to claims 4, 5, 20 and 21 above, and further in view of Tamagawa et al. (2003/019885).

Regarding claims 6,14,15,27 and 28, Choy et al., Kowalski, Nagata et al. and Ishikawa et al. all teach the invention and method claimed with the exception of latex particulates present in the overcoat composition at from 0.1 wt% to 15% wt and being predominantly from 20 nm-500nm and 10,000 Mw to 2,000,000 in size. Tamagawa et al. does not teach the exact /specific claimed molecular weight, however he does at least teach core/shell latex particles with an average molecular weight of 30,000 to 500,000 (Mn(c)) of the core and 4,000 to 30,000 [Mn(s)] of the shell and particle size of 0.2 pm (Page 5, Paragraphs 0079-0081).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to further modify the invention taught by Choy et al. in view of Kowalski, Nagata et al. and Ishikawa et al. to include the claimed range latex particles in an overcoat composition as taught by Tamagawa et al., since Tamagawa et

al. teaches it is advantageous to provide a recording material with excellent surface smoothness and water resistant qualities.

6. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. (EPO 1,329,487) in view of Kowalski (US Patent 6,536,893) and Nagata et al. (US Patent 6,585,366) as applied to claim 17 above, and further in view of Tamagawa et al. (2003/019885).

Choy et al., Kowalski and Nagata et al. all teach the method and apparatus claimed with the exception of a step of applying heat to the printed image to contribute to the physical property of the image being altered and a physical property is smoothness, wherein upon applying pressure, the printed image is modified from having a textured profile to a smoother profile. Tamagawa et al. provides the calendaring treatment in order to alter the appearance of a substrate by providing a smooth surface (Paragraph 0011). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to further modify the invention taught by Choy et al. in view of Kowalski and Nagata et al. to provide smoothness as a physical attribute as taught by Tamagawa et al., since Tamagawa et al. teaches it is advantageous to form an image having superior image quality and gloss.

7. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. (EPO 1,329,487) in view of Kowalski (US Patent 6,536,893) and Nagata et al. (US Patent 6,585,366) as applied to claims 1 and 17 above, and further in view Deguchi et al. (JP 02026747).

Choy et al., Kowalski and Nagata et al. all teach the method and invention claimed except for wherein the physical property is flow, wherein upon applying pressure, the printed image is temporarily modified from a more solid configuration to a more liquid configuration. Deguchi et al. teaches a hot melt type ink jet printer that melts the printing ink on a paper and softens the ink due to pressure applied by a device (Purpose and Constitution).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to further modify the invention taught by Choy et al. in view of Kowalski and Nagata et al. to include a printing image that is temporarily modified due to pressure as taught by Deguchi et al., since Deguchi et al. teaches that it is advantageous to add heat in order to make the printed image into a more liquid configuration.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marissa L. Ferguson-Samreth whose telephone number is (571) 272-2163. The examiner can normally be reached on (M-T) 6:30am-4:00pm and every other (F) 7:30am-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel J. Colilla/
Primary Examiner
Art Unit 2854

Marissa L Ferguson-Samreth
Examiner
Art Unit 2854

June 21, 2007
MFS